U P S

Uninterruptible Power System

250VA/ 350VA/ 500VA/ 650VA/ 850VA
800VA/ 1000VA/ 1200VA

User's Manual

TABLE OF CONTENTS

INTRODUCTION.....1
1. IMPORTANT SAFETY INSTRUCTIONS.....1
2. PRESENTATION.....2
3. INSTALLATION.....3
4. OPERATION.....3
5. ALARMS.....4
6. SOFTWARE AND INTERFACE PORT.....4
APPENDIX A TROUBLESHOOTING.....5
APPENDIX B.1 SPECIFICATIONS.....6
APPENDIX B.2 SPECIFICATIONS.....7

Please read and save this manual !

Thank you for selecting this uninterruptible power system (UPS). It provides you with a perfect protection for connected equipment. The manual is a guide to install and use the UPS. It includes important safety instructions for operation and correct installation of the UPS. If you should have any problems with the UPS, please refer to this manual before calling customer service.

1. IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

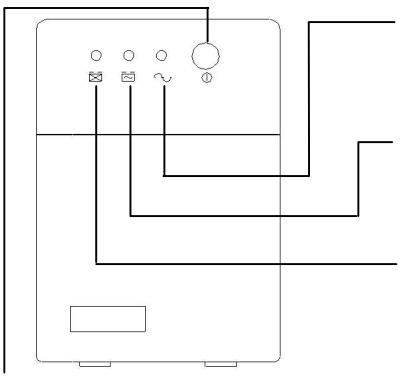
- **WARNING**: This manual contains important instructions that should be followed during installation and maintenance of the UPS and batteries.
- **WARNING (Controlled Environment)** : Intend for installation in a controlled environment.
- **CAUTION**: Do not dispose of batteries in a fire, the battery may explode.
- **CAUTION**: Do not open or mutilate the battery, released electrolyte is harmful to the skin and eyes. It may be toxic.
- **CAUTION**: A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries
  Remove watches, rings or other metal objects.
  Use tools with insulated handles.
  Wear rubber gloves and boots.
  Do not lay tools or metal parts on top of batteries.
  Disconnect charging source prior to connecting or disconnecting battery terminals.
- Servicing of batteries should be performed or supervised by personnel knowledgeable of batteries and the required precautions. Keep unauthorized personnel away from batteries.
- When replacing battery, replace with same type.
- Do not connect any additional batteries by yourself.

2. PRESENTATION

The UPS is a standby uninterruptible power system (UPS). When utility input is normal, the UPS would provide surge protection and energy to charge the internal battery. If the utility input is abnormal, the UPS can supply AC power to the loads immediately.

(1). Utilizes microprocessor based controls, it will minimizes the dependency on hardware. Beside this, it maximizes system flexibility and optimizes the assurance of reliability.
(2). Automatic frequency selection to match with utility power.
(3). Hi-grade battery charger to prolong battery's life and fully charge the battery.
(4). With actual overload protection both in line and battery mode.

Front View



2.1 "LINE" indicator (Green): The indicator will illuminate when the utility input is normal.

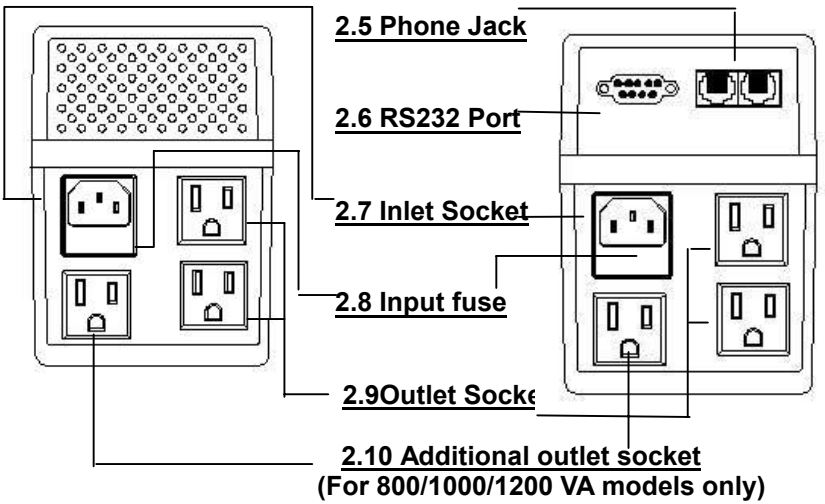
2.2 "BACKUP" indicator (Yellow): The indicator illuminates when the power is supplied from the batteries.

2.3"REPLACEBATTERY"indicator (Red): The indicator illuminates when the battery is no longer useful and must be replaced.

2.4 "ON/OFF/TEST/SILENCE" button: No matter the UPS plugged in or not. Press the "ON/OFF/TEST/SILENCE" button till the beep stop to turn on or to turn off the UPS. When UPS is working under AC mode, it also activates the UPS's self-test by press the bottom less than 1 second.

In back up mode, press the bottom about 1 second to activate the UPS's silence function. (800VA/ 1000VA/ 1200VA models only.)

Rear View



3. INSTALLATION

3.1 Inspection: Inspect the UPS upon receipt. The packaging is recyclable; save it for reuse or dispose of it properly.

3.2 Placement: Install the UPS in controlled area with adequate air flowing and free of excessive dust. Do not operate the UPS at outdoor area.

3.3 Utility Power: The input power cord needs to connect the rear inlet socket of the UPS and plug into a socket on the wall. Please notice the voltage of utility power should match with the UPS. (For example, the rating voltage of UPS is 110V/(220V), the input utility power should be the same as 110V/(220V) .)

3.4 Connection: The employed equipment's power cords (such as computer) are plugged into the sockets on the rear panel.

4. OPERATION

4.1 Switch on: When utility input is connected to the UPS, press "ON" button at "OFF" mode and keep pressing until the beep stops to turn on the UPS. After that, connect the electrical cords of the equipments that will be used (such as computer or monitor) to the rear panel of UPS.
Attention: At "BACKUP" mode, UPS can be automatically turned off if none of the connected loads is operating. (Green mode; No Load shut down function)

CAUTION: Never connect a laser printer or plotter to the UPS with other computer equipment. A laser printer or plotter periodically draws significantly more power than its idle status, and may overload the UPS.

4.2 Switch off: Press the “OFF” button at “LINE” or “BACKUP” modes and keep pressing more than 1 second to turn off the UPS.
Attention: UPS can automatically charge itself under ”OFF” mode. (Advanced Battery Management Technology)*

4.3 Silence: When UPS is under “BACKUP” mode, press the "SILENCE" button about 1 second to silence the audible alarm. The function is disabled when UPS is under condition of “LOW BATTERY” or “OVERLOAD”*

4.4 Self-test function: Press the “TEST” button at “LINE” mode about 1 second, UPS will perform self-test procedure automatically.

* means feature available only for model 800/1000/1200VA only.

5. ALARM

5.1 “BACKUP” (slow alarm): When the UPS is working under "BACKUP" mode, the UPS would emit audible alarm. The alarm stops when the UPS is return to “LINE” mode operation.
Attention: The alarm of “BACKUP” is going to beep every 2 seconds. (Slow-speed beep).
Attention: The UPS provides mute function for the warning. When the beeping sound occurs, press "ON" to stop it; and press "ON" again to resume the sound.*

* means feature available only for model 800/1000/1200VA only.

5.2 “LOW BATTERY” (rapid alarm): In the “BACKUP” mode, when the energy of battery becomes to lower level. (about 20%~30%) The UPS beeps rapidly until the UPS shuts down from battery exhaustion or returns to “LINE” mode operation.
Attention: The alarm of the batteries caused by low voltage beeps every 0.5 second.
Attention: The rapid alarm under “LOW BATTERY” condition cannot be muted.

5.3 “OVER LOAD” (continuous alarm): When the UPS is working under overload condition (the connected loads exceed the maximum rated capacity), the UPS will emit continuous alarm to warn an overload condition. In order to protect the unit and the loads, the UPS will be automatic turn off. Please disconnect nonessential devices from UPS to eliminate the overload alarm.

6.SOFTWARE (OPTION)

6.1 Power Monitoring Software
The UPS-MON series software (or other power monitoring software) is applied standard RS-232 interface to perform monitoring functions, and then provides an orderly shutdown of a computer in the event of power failure. Moreover, UPS-MON displays all the diagnostic symptoms on monitor, such as Voltage, Frequency, Battery level and so on. The software is available for DOS, Windows 3.1x, Windows 95/98/me/2000, Windows NT V3.5/4.0 or later, Novell Netware, Linux, and others. Call your dealer for more information on computer OS compatible solutions.

6.2 Interface Kits

A series of interface kits is available for operation systems that provide UPS monitoring. Each interface kit includes the special interface cable required to convert status signals from the UPS into signals which individual operating system recognizes. The interface cable at UPS side must be connected to REMOTE PORT, at computer side can be either COM 1 or COM 2. The other installation instructions and powerful features please refer to READ.ME file.

Attention: Use only factory supplied or authorized UPS monitoring cable!

6.3 The characteristics of computer interface port

The computer interface port has the following characteristics:

The communication port on the back of the UPS may be connected to host computer. This port allows the computer to monitor the status of the UPS and control the operation of the UPS in some cases. Its major functions normally include some or all of the following:

a. To broadcast a warning when power fails. b. To close any open file before the battery is exhausted. c. To turn-off the UPS.

Some computers are equipped with a special connector to link with the communication port. In addition, special plug-in cord may be needed. Some computers may need special UPS monitoring software. Contact your dealer for the details on the various interface kits.

APPENDIX A TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION TO TAKE
UPS cannot turn on LED not light	ON/OFF/TEST/SILENCE button not pushed or push-time too short	Press the ON/OFF/TEST/SILENCE button more than 1 second
	Battery voltage less than 10V	Recharge the ups at least 6 hours
	PCB failure	Replace the PCB, call for service
	Load less than 20W at battery mode	Normal condition, “No load shutdown function” is active.
UPS always at battery mode	Power cord lose	Plug in the power cord
	AC FUSE burn out	Replace the AC fuse
	Line voltage too high, too low or black out	Normal condition
	PCB failure	Replace PCB, call for service
Back up time too short	battery not fully charged	Recharge the UPS at least 6 hours
	PCB failure	Replace PCB, call for service
Buzzer continuous beeping	Overload	Remove some loads

APPENDIX B.1 SPECIFICATIONS

MODEL		250/S	350/S	500/S	650/S	850/S
INPUT	Capacity	250VA	350 VA	500 VA	650 VA	850 VA
	Voltage	100V +20%, -15% at line input 115V +/-20% at line input 220V +/-25% at line input 240V +15%, -20% at line input				
	Frequency	50 or 60Hz +/- 10% (auto sensing)				
OUTPUT	Voltage (on battery)	Simulated sine wave like rating voltage, +/-5%				
	Frequency (on battery)	50 or 60Hz +/- 0.3Hz				
	Transfer Time	2/4 milliseconds, including				
PROTECTION And FILTERING	Spike Protection	180-1080 joules(optional), 2ms				
	Overload Protection	UPS automatic shutdown if overload exceeds 105% of nominal at 20 seconds 120% at 10 seconds and 130% at 3 seconds				
	Unit Input	Fuse for overload & short circuit protection				
	Short Circuit	UPS output cut off immediately or input fuse Protection				
BATTERY	Type	Sealed, maintenance-free lead acid				
	Typical Recharge Time	6 hours (to 90% of full capacity)				
	Back up Time (minutes) (PC with 15” monitor)	5-15	7-17	10-25	15-30	18-33
PHYSICAL	Net weight Kg(lbs)	2.6 (5.7)	2.6 (5.7)	3.6 (7.9)	3.7 (8.1)	3.8 (8.3)
	Dimension(mm)WxDxH	97*265*135/ 3.8”*10.4”*5.3”				
	Input Inlet	IEC 320 power inlet				
	Receptacles	NEMA5-15R(115V), IEC320 female appliance coupler(220V)				
ALARM	Battery Back-Up	Slow beeping sound (once per 2 seconds)				
	Battery Low	Rapid beeping sound (once per 0.5 second)				
	Overload	Continue beeping sound				
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-40℃				
	Audible Noise	<40dBA(1 meter from surface)				
	Storage condition	15,000 meters max.				

APPENDIX B.2 SPECIFICATIONS

	MODEL	800/S	1000/S	1200/S
INPUT	Capacity	800VA	1000VA	1200VA
	Voltage	100V +20%, -15% at line input 115V +/-20% at line input 220V +/-25% at line input 240V +15%, -20% at line input		
	Frequency	50 or 60Hz +/- 10% (auto sensing)		
OUTPUT	Voltage (on battery)	Simulated sine wave like rating voltage, +/-5%		
	Frequency (on battery)	50 or 60Hz +/- 0.3Hz		
	Transfer Time	2/4 milliseconds, including		
PROTECTION And FILTERING	Spike Protection	180-1080 joules(optional), 2ms		
	Overload Protection	UPS automatic shutdown if overload exceeds 105% of nominal at 20 seconds 120% at 10 seconds and 130% at 3 seconds		
	Unit Input	Fuse for overload & short circuit protection		
	Short Circuit	UPS output cut off immediately or input fuse Protection		
BATTERY	Type	Sealed, maintenance-free lead acid		
	Typical Recharge Time	6 hours (to 90% of full capacity)		
	Back up Time (minutes) (PC with 15” monitor)	20-35	25-40	30-45
INTERFACE	RS232 Interface	Bi-directional communication port		
PHYSICAL	Net weight Kg(lbs)	4.9(10.8)	4.9(10.8)	4.9(10.8)
	Dimension(mm)WxDxH	97*320*135/ 3.8”*12.6”*5.3”		
	Input Inlet	IEC 320 power inlet		
	Receptacles	NEMA5-15R(115V), IEC320 female appliance coupler(220V)		
ALARM	Battery Back-Up	Slow beeping sound (once per 2 seconds)		
	Battery Low	Rapid beeping sound (once per 0.5 second)		
	Overload	Continue beeping sound		
ENVIRONMENT	Ambient operation	3,500 meters max. elevation, 0-95% humidity non-condensing, 0-40℃		
	Audible Noise	<40dBA(1 meter from surface)		
	Storage condition	15,000 meters max.		

©2001. December. 19 Version. 1.0 All right Reserved.
All trademarks are property of their respective owners. Specifications subject to change without prior notice.